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EXAMINER
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SCHATZ, CHRISTOPHER T

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* STEVEN BLOEMBERGEN, FRANS KAPPEN, and  
MARINELLA VAN LEEUWEN

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Appeal 2015-005309  
Application 10/476,428  
Technology Center 1700

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Before DONNA M. PRAISS, CHRISTOPHER L. OGDEN, and  
MICHAEL G. McMANUS, *Administrative Patent Judges*.

McMANUS, *Administrative Patent Judge*.

DECISION ON APPEAL

The Examiner finally rejected claims 1, 7, 9, 13, and 14 of  
Application 10/476,428 under 35 U.S.C. § 103(a) as obvious. Final Act.  
(April 22, 2014). Appellants<sup>1</sup> seek reversal of these rejections pursuant to  
35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we AFFIRM.

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<sup>1</sup> EcoSynthetix Ltd., is identified as the real party in interest. Appeal Br. 3.

## STATEMENT OF THE CASE

The Examiner finally rejected claims 3, 4, 11, and 25 as indefinite, claims 3 and 4 for improper dependency, and claims 1, 3–5, 7, 9, and 11–15 as obvious. Final Act. 2–5. On August 15, 2014, Appellants submitted an amendment seeking to cancel claims 3 and 4 and amend claims 5, 11, 12, and 15. By Advisory Action dated August 28, 2014, the Examiner declined to enter the August 15, 2014 amendments.

On October 22, 2014, Appellants filed their first Appeal Brief. This brief included a Claims Appendix that listed claims 1, 5, 7, 9, and 11–15. On this same date, Appellants submitted certain amendments to the claims. These amendments were not entered by the Examiner. *See* Advisory Action dated October 31, 2014.

On November 20, 2014, Appellants submitted an amendment cancelling claims 3, 4, 5, 11, 12, and 15. On the same date, they filed a second Appeal Brief. This brief included a Claims Appendix that listed only claims 1, 7, 9, 13, and 14. In the Answer to the Appeal Brief, the Examiner indicated that the rejections relating to claims 3, 4, 5, 11, 15, and 25 were withdrawn in view of the cancellation of such claims by the Appellants. Answer 2–3 (indicating that the Examiner does not maintain the rejection of claim 5), 4 (listing withdrawn rejections).

## BACKGROUND

The present application generally relates to a process for producing corrugated board using a starch nanoparticle adhesive.

Claim 1 is representative of the pending claims and is reproduced below:

1. A process for producing corrugated board, comprising a step of applying a latex adhesive to a corrugated medium wherein the latex adhesive comprises, when applied to the corrugated medium, starch nanoparticles having a size of less than 1000 nanometers which were obtained by plasticizing starch using shear forces in in [sic] an extruder and reacting the plasticized starch with a crosslinking agent in the extruder.

Appeal Br. 11 (Claims App.).

### REJECTIONS

On appeal, the Examiner maintains the following rejection:

Claims 1, 7, 9, 13, and 14 are rejected under 35 U.S.C. § 103(a) as obvious over Grimm (US 2,236,056, iss. Mar. 25, 1941) (“Grimm”) in view of Giezen et al. (WO 00/69916, pub. Nov. 23, 2000) (“Giezen”). Final Act. 3.

### DISCUSSION

The Examiner rejected the claims at issue over the combined teachings of Grimm and Giezen. The Examiner finds that Grimm broadly discloses a method of applying a starch adhesive to a corrugated board. Final Act. 4; Grimm 1. The Examiner also finds that Giezen teaches starch nanoparticles formed as described in claim 1. Final Act. 4. Giezen provides that such starch particles may be used in various applications including as “an adhesive or an adhesive additive (tackifier).” Giezen ¶ 13. Giezen also provides that the disclosed starch nanoparticles may be used “in the paper-making and packaging industry (paper and cardboard surface treatment, gloss etc.).” *Id.* The Examiner relies upon such disclosures to find that

Giezen teaches a starch that “can be used as an adhesive in cardboard.”

Final Act. 4.

Appellants quote the same paragraph of Giezen and conclude that it teaches to use starch nanoparticles with paper products as barriers rather than adhesives. Appeal Br. 6–7; Reply Br. 2. According to Appellants, Giezen “does not disclose the use of such adhesives for corrugated board.” Appeal Br. 7.

Appellants further argue that it would not have been obvious to use the starch particles taught by Giezen as an adhesive in a corrugation process because, at the time the application was filed, a typical corrugating adhesive contained a major portion of uncooked slurry starches which “only become adhesive when they are cooked to their gel point and become dissolved.” *Id.* (citing Spec. ¶ 18). In support, Appellants quote from an inventor declaration that asserts, inter alia, that “[t]he ‘holy grail’ of the corrugating industry for many years has been to have a cold-set adhesive system such that the corrugating process can be conducted at lower temperatures.” Affidavit of Steven Bloembergen, filed August 4, 2009. That is, Appellants assert that a person of ordinary skill would have used a heat activated starch adhesive rather than some other type.

Appellants, however, do not explain why other types of adhesive are not suitable. Nor do they articulate what alternative adhesives were known for use in corrugation. Dr. Bloembergen’s statement that granular starch based adhesive “is still the dominant technology for corrugated board manufacturing,” Appeal Br. 7 (citing Bloembergen Aff. ¶ 7), suggests other adhesives were in use but does not indicate their identity or attributes.

The Examiner’s findings that the starch nanoparticles of Giezen were known for use as adhesives and known to adhere to paper products, at least

as surface treatments, are undisputed. In opposition, Appellants assert only that heat activated granular starch based adhesive was the “dominant” adhesive technology for corrugated board. Appeal Br. 8. Absent an articulation as to why a person of ordinary skill in the art would not have regarded the adhesive of Giezen as suitable for corrugation, the Board is unable to find reversible error in the Examiner’s finding that such a person would have been motivated to combine the known adhesive of Giezen with the known process of Grimm.

Appellants include a separate heading in their brief for claim 7. Appeal Br. 9. Under such heading, Appellants quote the language of claim 7 and then provide quotes from the disclosure of Giezen. This is insufficient to state an issue for appeal. *See* 37 C.F.R. § 41.37(c)(iv) (requiring, for each argument, “the basis therefor, with citations of the statutes, regulations, authorities, and parts of the record relied on” and further requiring that the “arguments shall explain why the examiner erred as to each ground of rejection”); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011). To the extent Appellants do state a separate ground for appeal of claim 7, we find that they have failed to show reversible error in the Examiner’s finding that Giezen teaches an exemplary composition having a dry solid content falling within the range of claim 7. Answer 6 (citing Giezen ¶ 18). As explained by the Examiner, one gram of water has a volume of one cubic centimeter. Answer 6. Giezen describes a mixture of 20 grams of starch granules with 80 grams of water. Giezen ¶ 18. The described 80 grams of water corresponds to 80 milliliters (80 cm<sup>3</sup>) of water, thus, the appropriate weight to volume (w/v) percentage can be derived.

CONCLUSION

The Examiner's rejection of claims 1, 7, 9, 13, and 14 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED